

Information Technology
Networking Essentials
Course Code # 3778
1 Credit

School Year _____

Term: ____Fall____Spring

Prerequisites: Keyboarding (working knowledge of desktop computer operating systems and a familiarity with files including autoexec.bat and config.sys.)

Recommended Prerequisite or Concurrent with: Computer Productivity Applications, Programming Course

Student:	Grade:
Teacher:	School:
Number of Competencies in Course: 40	
Number of Competencies Mastered:	
Percent of Competencies Mastered:	

Standard 1.0 The student will examine characteristics, components and functions of basic network designs.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
1.1	Illustrate how computers are connected to form a local area network (LAN).			
1.2	Differentiate between peer-to-peer and server-based networks.			
1.3	Examine considerations involved in implementing servers in peer-to-peer and server-based networks.			
1.4	Describe standard topologies, analyze major components of each topology and determine appropriate uses for each topology.			

Standard 2.0 The student will examine the linkage of network components by physical or wireless media.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
2.1	Demonstrate a working knowledge of major cable types their construction, features and operation- and the determination of which is best for various networking situations.			
2.2	Differentiate between various wireless environments.			
2.3	Examine the basic features of a network card and illustrate how the features affect network performance; select the correct network adapter cards for a network and identify different cable media connector types.			

Standard 3.0 The student will examine the Open Systems Interconnection (OSI) reference model and explain how the different network components such as drivers, packets and protocols fit into a network operation.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
3.1	Analyze the Open Systems Interconnection (OSI) model and the IEEE project 802 model.			
3.2	Examine the role of drivers in a network environment.			
3.3	Demonstrate a proficiency in the concept of packets as the basic building blocks of network data communications.			
3.4	Explain the role protocols play in network communications and describe how different protocols work at various OSI levels.			
3.5	Explain the major access methods including carrier-sense multiple access methods, token passing and demand priority.			

Standard 4.0 The student will learn about the primary network architectures and be able to describe their major components, features and functions.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
4.1	Examine the Ethernet network architecture, major components, features and functions.			
4.2	Examine the Token Ring architecture including its features, components and operation.			
4.3	Examine AppleTalk architectures including its features, components and operation.			
4.4	Examine Arcnet architectures including its features, components and operation.			

Standard 5.0 The student will examine the operating systems, applications, utilities and special languages that make it possible for networks to operate.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
5.1	Describe a network operating system's basic features and functions and the overall process for installing a network operating system.			
5.2	Explain how documents are printed in a networking environment.			
5.3	Differentiate between the three major categories (email, scheduling and GroupWare) of network applications.			
5.4	Analyze the issues and problems involved in implementing a network that incorporates components from different vendors.			
5.5	Describe the process of setting up and working on a network that has servers and clients.			
5.6	Assess the advantages of client/server over centralized computing.			

Standard 6.0 The student will examine the tasks involved in managing and supporting a network.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
6.1	Perform administrator tasks and responsibilities, such as managing accounts, passwords and groups.			
6.2	Use performance-monitoring tools to monitor a network.			
6.3	Debate network security issues related to data security and physical component security.			
6.4	Examine the possible causes of data loss and propose ways to protect the network against them.			

Standard 7.0 The student will describe how networks grow from a local area network (LAN) into larger wide area networks (WAN).

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
7.1	Appraise modem technology.			
7.2	Analyze the role of each component in LAN-to-LAN and LAN-to-WAN communications including the method of operations and limitations.			
7.3	Examine common WAN concepts and terminology.			
7.4	Analyze key advanced WAN transmission technologies.			

Standard 8.0 The student will identify and correct common network problems using the available tools in the business environment.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
8.1	Plan and monitor for potential network problems before they happen.			
8.2	Employ troubleshooting tools used to resolve networking issues.			
8.3	Demonstrate what the Internet is and how to access its resources.			

Standard 9.0 The student will evaluate professional skills associated with business leaders.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
9.1	Demonstrate self-initiative through group projects.			
9.2	Examine the value of leadership skills.			
9.3	Illustrate image building and public relations techniques.			
9.4	Assess decision-making skills.			
9.5	Demonstrate effective teamwork and group thinking applying conflict resolution techniques.			
9.6	Demonstrate parliamentary procedure skills through group activities.			
9.7	Analyzes the goals and applies the principles of Business Professionals of America and/or Future Business Leaders of America.			

Additional comments: _____